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American Association for Cancer Research

Pezcoller Foundation-AACR International Award for Cancer Research recognizes Mina J. Bissell

Bissell honored for pioneering work in understanding the role of the tumor microenvironment and 3-dimensional architecture in cell and cancer biology

PHILADELPHIA -- Mina J. Bissell, Ph.D., is the recipient of the 2007 Pezcoller Foundation-AACR International Award for Cancer Research for her pioneering work on the relationship between cancer genetics and the three-dimensional structure of cells and tissues. Bissell is Distinguished Scientist in the Life Sciences Division at Lawrence Berkeley National Laboratory and a recognized leader in the study of the extracellular matrix (ECM) – the complex physical and biochemical environment that surrounds living tissues – and how it regulates genes in both normal organs and malignant tumors.

"Dr. Bissell is an extraordinarily accomplished cell biologist whose discoveries have had an enormous impact on our understanding of the mechanisms by which living cells proliferate, differentiate, become cancerous, or, ultimately, die," said AACR Chief Executive Officer Margaret Foti, Ph.D., M.D. (h.c.). "Her insights into the role of the extracellular matrix in gene expression have revolutionized our fundamental understanding of cancer biology."

This year marks the tenth anniversary of the award, which recognizes an individual who has made a major scientific discovery in basic or translational cancer research. Bissell will give an award lecture at the AACR Annual Meeting 2007 in Los Angeles, Calif., April 14-18. Her talk, entitled "Phenotype Overrides Genotype in Normal

Mammary Gland and Breast Cancer," will be given at 5:30 p.m., Sunday, April 15, in Hall A of the Los Angeles Convention Center.

In Bissell's honor, the Pezcoller Foundation will hold an award ceremony in early May in Trento, Italy, where she will receive a cash award of €75,000 and a medallion.

"I am honored to be the recipient of this prestigious award, and I thank the selection committee as well as the past and present members of my group for their hard work and vision" said Bissell.

Bissell's work in the last two decades has brought the research community to a closer understanding of how cells function in three-dimensional living tissue as opposed to the two-dimensional culture dish. Her group continues to do pioneering work in this area, and in a recent article in Science her group described a new assay using micropatterns of cells sandwiched between two layers of ECM gels, and showed how mammary cells regulate branching which could be used to understand how breast cancer cells become invasive.

The citation for the Pezcoller Foundation-AACR award points out how for over three decades, Bissell's elegant studies have revealed that the critical unit of biological function is the integrated signaling circuit provided by the tissue (organ) architecture. She is being honored for systematically looking beyond the single cell, showing that the interaction of cells with each other and with the ECM and the rest of the microenvironment influence cell proliferation, survival, morphogenesis, differentiation, and cell fate, all processes that go awry in cancer. These studies are innovative and the approaches imaginative, combined with rigor and persistence. The concepts she has developed are fundamental to normal tissue morphogenesis and cancer, and the impact of her work is profound for how we view biological regulation. In short, Bissell has taken an original and refreshing approach that has produced revolutionary new concepts.

Bissell received her Bachelor's degree in chemistry with honors from Radcliffe/ Harvard College. She received her Ph.D. in microbiology/molecular genetics from Harvard University. She began her career as a Milton Fellow at Harvard University in 1969, subsequently serving as an American Cancer Society Fellow at UCB. In 1972 she joined the Staff of Lawrence Berkeley National Laboratory becoming a Senior Scientist in 1976. She served as the Director of the Cell and Molecular Biology Division from 1988-1992; as the Director of all Life Sciences from 19922002; as the Associate Director of Biosciences from 1995-2002; and upon stepping down as Director, was named Distinguished Scientist and Senior Advisor to the Laboratory Director on Biology in 2002, positions she currently holds.

Bissell also serves as a member of the faculty of three graduate groups at the University of California, Berkeley, and a member of Cancer Center at UCSF. She has received numerous recognitions and awards for her scientific achievements including her elections as a Fellow of the American Academy for the Advancement of Science, a member of the Institute of Medicine of the National Academy of Sciences, and a member of the American Academy of Arts and Sciences.

She has been honored both by the Department of Defense (first Innovator Award)

and the Department of Energy (the Lawrence Award and the first Distinguished Fellow in Biosciences) and received honorary doctorates from Pierre and Marie Curie University in Paris and University of Copenhagen. In 1997, Dr. Bissell served as President of the American Society for Cell Biology. A member of the American Association for Cancer Research since 1988, Dr. Bissell served on its Board of Directors from 1999-2001, and received the AACR-G.H.A. Clowes Memorial Award in 1999.

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For biographical information on Bissell, high-resolution photographs and the complete award citation, contact Greg Lester at lester@aacr.org /267-646-0554.

The mission of the American Association for Cancer Research is to prevent and cure cancer. Founded in 1907, AACR is the world's oldest and largest professional organization dedicated to advancing cancer research. The membership includes more than 24,000 basic, translational, and clinical researchers; health care professionals; and cancer survivors and advocates in the United States and more than 70 other countries. AACR marshals the full spectrum of expertise from the cancer community to accelerate progress in the prevention, diagnosis and treatment of cancer through high-quality scientific and educational programs. It funds innovative, meritorious research grants. The AACR Annual Meeting attracts more than 17,000 participants who share the latest discoveries and developments in the field. Special Conferences throughout the year present novel data across a wide variety of topics in cancer research, treatment, and patient care. AACR publishes five major peer-reviewed journals: Cancer Research; Clinical Cancer Research; Molecular Cancer Therapeutics; Molecular Cancer Research; and Cancer Epidemiology, Biomarkers & Prevention. Its most recent publication, CR, is a magazine for cancer survivors, patient advocates, their families, physicians, and scientists. It provides a forum for sharing essential, evidence-based information and perspectives on progress in cancer research, survivorship, and advocacy.

The Pezcoller Foundation was established in 1982 by Professor Alessio Pezcoller, a dedicated Italian surgeon who made important contributions to medicine during his career and who, through his foresight, vision, and generosity leading to the formation of the Foundation, has stimulated others to make significant advances in cancer research. The AACR and the Pezcoller Foundation established this award in 1997 to recognize a major scientific discovery in basic or translational research. It honors a scientist who has made a major discovery in basic cancer research or who has made significant contributions to translational research, who continues to be active in research and has a record of recent, noteworthy publications, and whose ongoing work holds promise for continued, substantive contributions to progress in the field of cancer.